

Unit 6: Statistics Lesson 6.4



Game On!

- 2 1. The following is taken from a State of the Park Report for Banff National Park.

Table 9: Visitor Numbers

	2004	2005	2006
Total visitors	3,135,727	3,164,906	3,281,435
Total visitor days	7,453,465	7,518,997	7,784,044

Total visitors have increased by 4.6% and total visitor days by 4.4% in this period. Group tour visitors have increased slightly, from 11.6% to 12.6% of the total. These figures are not absolutes as the margin of error for total visitors is 7.5% and for total visitor days, 7.3%.

Source: http://www.pc.gc.ca/eng/docs/bib-lib/docs5hi.aspxREP_SPR_e.pdf

Determine the confidence interval for total visitors in 2006.

6

2. Read the following article published by Angus Reid Public Opinion.



For Immediate Release
Canadian Public Opinion Poll

Page 1 of 4

THE PENNY

Two Thirds of Canadians Agree with Decision to Phase Out the Penny

Three-in-five respondents are opposed to taking the five-cent coin out of circulation in Canada.

[VANCOUVER – Jan. 15, 2013] – Most people in Canada are content with the idea of abandoning the one-cent coin, a new Angus Reid Public Opinion poll has found.

In the online survey of a representative national sample of 1,008 Canadian adults, two thirds of respondents (68%) agree with the government's decision to take the penny out of circulation this year.

In its 2012 budget, the federal government decided to phase out the penny “due to its excessive and rising cost of production relative to face value, the increased accumulation of pennies by Canadians in their households, environmental considerations, and the significant handling costs the penny imposes on retailers, financial institutions and the economy in general.”

The one-cent coin will no longer be circulated in Canada as of Feb. 4.

Quebecers (73%) and British Columbians (71%) are more likely to agree with the abolition of the penny, along with male respondents (73%) and those over the age of 55 (70%).

Three-in-five Canadians (60%) oppose taking the nickel out of circulation in the country, while one third (32%) support this idea.

Quebecers (39%), men (38%) and Canadians aged 18-to-34 (36%) are more likely to endorse phasing out the five-cent coin.

KEY FINDINGS

- **68% agree with the government's decision to take the penny out of circulation this year**
- **60% oppose taking the nickel out of circulation in Canada**

Full topline results are at the end of this release.

From January 7 to January 8, 2013, Angus Reid Public Opinion conducted an online survey among 1,008 randomly selected Canadian adults who are Angus Reid Forum panellists. The margin of error—which measures sampling variability—is +/- 3.1%, 19 times out of 20. The results have been statistically weighted according to the most current education, age, gender and region Census data to ensure a sample representative of the entire adult population of Canada. Discrepancies in or between totals are due to rounding.

CONTACT:

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For Immediate Release
Canadian Public Opinion Poll

Page 2 of 4

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About Angus Reid Public Opinion

[Angus Reid Public Opinion](#) is a public affairs practice headed by Dr. Angus Reid: an industry visionary who has spent more than four decades asking questions to figure out what people feel, how they think and who they will vote for. A team of talented and experienced practitioners with a unique and profound understanding of global issues conduct high quality research throughout the world on a daily basis for corporations, governments, academic researchers, and non-profit organizations.

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- 30 -

**For more information, please contact
our spokesperson listed in the footnote.**

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For Immediate Release
Canadian Public Opinion Poll

Page 3 of 4

The Penny							
As you may know, the Canadian Government has decided to take the penny out of circulation this year. Do you agree or disagree with this decision?							
	Canada	Region					
		BC	AB	MB/SK	ON	PQ	ATL
Agree	68%	71%	69%	68%	62%	73%	70%
Disagree	28%	24%	26%	26%	33%	23%	30%
Not sure	5%	6%	5%	6%	6%	4%	0%

The Penny						
As you may know, the Canadian Government has decided to take the penny out of circulation this year. Do you agree or disagree with this decision?						
	Canada	Gender		Age		
		Male	Female	18-34	35-54	55+
Agree	68%	73%	62%	66%	66%	70%
Disagree	28%	23%	32%	25%	30%	28%
Not sure	5%	4%	6%	8%	4%	2%

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For Immediate Release
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Page 4 of 4

The Penny							
Would you support or oppose taking the nickel out of circulation in Canada?							
	Canada	Region					
		BC	AB	MB/SK	ON	PQ	ATL
Support	32%	31%	32%	31%	28%	39%	36%
Oppose	60%	60%	61%	65%	63%	54%	55%
Not sure	8%	9%	7%	4%	8%	7%	9%

The Penny						
Would you support or oppose taking the nickel out of circulation in Canada?						
	Canada	Gender		Age		
		Male	Female	18-34	35-54	55+
Support	32%	38%	27%	36%	31%	32%
Oppose	60%	53%	66%	54%	62%	63%
Not sure	8%	9%	7%	10%	8%	5%

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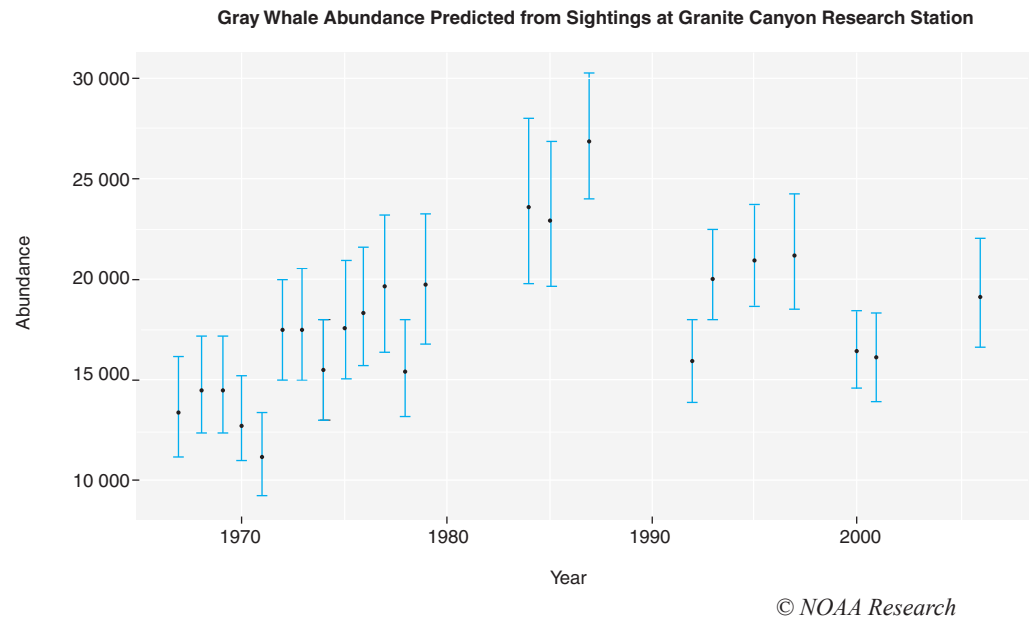
- a. Provide a summary of the information that is presented in the report.

- b. State the sample size, margin of error, and confidence level for the findings. How do these support the findings?

sample size	
margin of error	
confidence level	

- c. There were approximately 28 million adults in Canada when this survey was conducted. Give an upper and lower estimate for the number of Canadian adults that would agree that the penny should be taken out of circulation.

3. In ecology, the term “abundance” refers to the number of individual animals seen over a period of time at a particular location. The following diagram represents estimates of the eastern north Pacific gray whale based on sightings from a research station in California.



- a. Explain how this diagram can be interpreted.
- _____
- _____
- _____
- b. Can you say that the gray whale abundance was higher in 1970 than in 1971? Explain.
- _____
- _____
- _____
- c. Is the statement “gray whale populations have been estimated as high as 22 000 in 2008” a reasonable interpretation of the diagram?
- _____
- _____
- _____

/11

You have completed *Lesson 6.4 Game On!*. Please proceed to the *Unit 6: Statistics Time Out*, on the next page of this *Workbook*.